

1. A purified peptide comprising the amino acid sequence (I): Xaa<sub>1</sub> Xaa<sub>2</sub> Xaa<sub>3</sub> Xaa<sub>4</sub> Xaa<sub>5</sub> Cys<sub>6</sub> Cys<sub>7</sub> Xaa<sub>8</sub> Xaa<sub>9</sub> Cys<sub>10</sub> Cys<sub>11</sub> Xaa<sub>12</sub> Xaa<sub>13</sub> Xaa<sub>14</sub> Cys<sub>15</sub> Xaa<sub>16</sub> Xaa<sub>17</sub> Cys<sub>18</sub> Xaa<sub>19</sub> Xaa<sub>20</sub> Xaa<sub>21</sub> wherein: Xaa<sub>1</sub> Xaa<sub>2</sub> Xaa<sub>3</sub> Xaa<sub>4</sub> Xaa<sub>5</sub> is Asn Ser Ser Asn Tyr or is missing or Xaa<sub>1</sub> Xaa<sub>2</sub> Xaa<sub>3</sub> Xaa<sub>4</sub> is missing.

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2. The purified peptide of claim 1 wherein Xaa<sub>5</sub> is Asn, Trp, Tyr, Asp, or Phe.

3. The purified peptide of claim 1 wherein Xaa<sub>5</sub> is Thr or Ile.

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4. The purified peptide of claim 1 wherein Xaa<sub>5</sub> is Tyr, Asp or Trp.

5. The purified peptide of claim 1 wherein Xaa<sub>8</sub> is Glu, Asp, Gln, Gly or Pro.

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6. The purified peptide of claim 1 wherein Xaa<sub>9</sub> is Leu, Ile, Val, Ala, Lys, Arg, Trp, Tyr or Phe.

7. The purified peptide of claim 1 wherein Xaa<sub>9</sub> is Leu, Ile, Val, Lys, Arg, Trp, Tyr or Phe.

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8. The purified peptide of claim 1 wherein Xaa<sub>12</sub> is Asn, Tyr, Asp or Ala.

9. The purified peptide of claim 1 wherein Xaa<sub>13</sub> is Ala, Pro or Gly.

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10. The purified peptide of claim 1 wherein Xaa<sub>14</sub> is Ala, Leu, Ser, Gly, Val, Glu, Gln, Ile, Leu, Lys, Arg, or Asp.

11. The purified peptide of claim 1 wherein Xaa<sub>16</sub> is Thr, Ala, Asn, Lys, Arg, Trp.

12. The purified peptide of claim 1 wherein Xaa<sub>17</sub> is Gly, Pro or Ala.

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13. The purified peptide of claim 1 wherein Xaa<sub>19</sub> is Trp, Tyr, Phe, Asn or Leu.

14. The purified peptide of claim 1 wherein Xaa<sub>19</sub> is Lys or Arg.

15. The purified peptide of claim 1 wherein Xaa<sub>20</sub> Xaa<sub>21</sub> is AspPhe or Xaa<sub>20</sub> is Asn or Glu and Xaa<sub>21</sub> is missing.

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16. A purified peptide comprising the amino acid sequence:  
Asn Ser Ser Asn Tyr Cys Cys Glu Tyr Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr  
(SEQ ID NO:---; MD-915).

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17. A purified peptide comprising the amino acid sequence:  
Cys Cys Glu Tyr Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO:--; MD-1100).

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18. A purified peptide consisting of the amino acid sequence:  
Asn Ser Ser Asn Tyr Cys Cys Glu Tyr Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr  
(SEQ ID NO:---; MD-915).

19. A purified peptide consisting of the amino acid sequence:  
Cys Cys Glu Tyr Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO:--; MD-1100).

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20. A method for treating a gastrointestinal disorder in a patient comprising administering a purified peptide comprising the amino acid sequence: Asn Ser Ser Asn Tyr Cys Cys Glu Leu Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr  
(SEQ ID NO:--; MM-416776).

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21. A method for treating a gastrointestinal disorder in a patient comprising administering a purified peptide comprising the amino acid sequence:  
Asn Ser Ser Asn Tyr Cys Cys Glu Tyr Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr  
(SEQ ID NO:---; MD-915).

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22. A method for treating a gastrointestinal disorder in a patient comprising administering a purified peptide comprising the amino acid sequence:

Cys Cys Glu Leu Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO:--; MM416774)

23. A method for treating a gastrointestinal disorder in a patient comprising administering a purified peptide comprising the amino acid sequence:

5 Cys Cys Glu Tyr Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO:--; MD-1100).

24. A purified polypeptide comprising an amino acid sequence of any of:  
Asn Ser Ser Asn Tyr Cys Cys Glu Leu Cys Cys Asn Pro Ala Cys Trp Gly Cys Tyr  
(SEQ ID NO:--);

10 Cys Cys Glu Leu Cys Cys Asn Pro Ala Cys Trp Gly Cys Tyr (SEQ ID NO:---);  
Asn Cys Cys Glu Leu Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO:---);  
Asn Cys Cys Glu Leu Cys Cys Asn Pro Ala Cys Trp Gly Cys Tyr (SEQ ID NO:---);  
Asn Cys Cys Glu Phe Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO:---);  
Asn Cys Cys Glu Tyr Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO:---);  
15 Asn Cys Cys Glu Trp Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO:---);  
Asn Cys Cys Glu Arg Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO:---);  
Asn Cys Cys Glu Lys Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO:---);  
Asn Ser Ser Asn Tyr Cys Cys Glu Leu Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr Asp Phe  
(SEQ ID NO:---);  
20 Asn Ser Ser Asn Tyr Cys Cys Glu Leu Cys Cys Asn Pro Ala Cys Trp Gly Cys Tyr Asp Phe  
(SEQ ID NO:---);  
Asn Ser Ser Asn Tyr Cys Cys Glu Phe Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr Asp Phe  
(SEQ ID NO:---);  
Asn Ser Ser Asn Tyr Cys Cys Glu Tyr Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr Asp Phe  
25 (SEQ ID NO:---);  
Asn Ser Ser Asn Tyr Cys Cys Glu Trp Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr Asp Phe  
(SEQ ID NO:---);  
Asn Ser Ser Asn Tyr Cys Cys Glu Arg Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr Asp Phe  
(SEQ ID NO:---);  
30 Asn Ser Ser Asn Tyr Cys Cys Glu Lys Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr Asp Phe  
(SEQ ID NO:---);

Cys Cys Glu Leu Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr Asp Phe (SEQ ID NO:---);  
 Cys Cys Glu Leu Cys Cys Asn Pro Ala Cys Trp Gly Cys Tyr Asp Phe (SEQ ID NO:---);  
 Cys Cys Glu Phe Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr Asp Phe (SEQ ID NO:---);  
 Cys Cys Glu Tyr Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr Asp Phe (SEQ ID NO:---);  
 5 Cys Cys Glu Trp Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr Asp Phe (SEQ ID NO:---);  
 Cys Cys Glu Arg Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr Asp Phe (SEQ ID NO:---);  
 Cys Cys Glu Lys Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr Asp Phe (SEQ ID NO:---);  
 Asn Cys Cys Glu Leu Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr Asp Phe (SEQ ID NO:---);  
 Asn Cys Cys Glu Leu Cys Cys Asn Pro Ala Cys Trp Gly Cys Tyr Asp Phe (SEQ ID NO:---);  
 10 Asn Cys Cys Glu Phe Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr Asp Phe (SEQ ID NO:---);  
 Asn Cys Cys Glu Tyr Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr Asp Phe (SEQ ID NO:---);  
 Asn Cys Cys Glu Trp Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr Asp Phe (SEQ ID NO:---);  
 Asn Cys Cys Glu Arg Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr Asp Phe (SEQ ID NO:---);  
 Asn Cys Cys Glu Lys Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr Asp Phe (SEQ ID NO:---);  
 15 Gln Ser Ser Asn Tyr Cys Cys Glu Tyr Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO:---);  
 Asn Thr Ser Asn Tyr Cys Cys Glu Tyr Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO:---);  
 Asn Leu Ser Asn Tyr Cys Cys Glu Tyr Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO:---);  
 Asn Ile Ser Asn Tyr Cys Cys Glu Tyr Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO:---);  
 Asn Ser Ser Gln Tyr Cys Cys Glu Tyr Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO:---);  
 20 Ser Ser Asn Tyr Cys Cys Glu Tyr Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO:---);  
 Gln Ser Ser Gln Tyr Cys Cys Glu Tyr Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO:---);  
 Ser Ser Gln Tyr Cys Cys Glu Tyr Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO:---);  
 Asn Ser Ser Asn Tyr Cys Cys Glu Ala Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO: );  
 Asn Ser Ser Asn Tyr Cys Cys Glu Arg Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO: );  
 25 Asn Ser Ser Asn Tyr Cys Cys Glu Asn Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO: );  
 Asn Ser Ser Asn Tyr Cys Cys Glu Asp Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO: );  
 Asn Ser Ser Asn Tyr Cys Cys Glu Cys Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO: );  
 Asn Ser Ser Asn Tyr Cys Cys Glu Gln Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO: );  
 Asn Ser Ser Asn Tyr Cys Cys Glu Glu Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO: );  
 30 Asn Ser Ser Asn Tyr Cys Cys Glu Gly Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO: );  
 Asn Ser Ser Asn Tyr Cys Cys Glu His Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO: );

Asn Ser Ser Asn Tyr Cys Cys Glu Ile Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO: );  
 Asn Ser Ser Asn Tyr Cys Cys Glu Lys Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO: );  
 Asn Ser Ser Asn Tyr Cys Cys Glu Met Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO: );  
 Asn Ser Ser Asn Tyr Cys Cys Glu Phe Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO: );  
 5 Asn Ser Ser Asn Tyr Cys Cys Glu Pro Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO: );  
 Asn Ser Ser Asn Tyr Cys Cys Glu Ser Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO: );  
 Asn Ser Ser Asn Tyr Cys Cys Glu Thr Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO: );  
 Asn Ser Ser Asn Tyr Cys Cys Glu Trp Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO: );  
 Asn Ser Ser Asn Tyr Cys Cys Glu Val Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO: );  
 10 Cys Cys Glu Ala Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO: );  
 Cys Cys Glu Arg Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO: );  
 Cys Cys Glu Asn Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO: );  
 Cys Cys Glu Asp Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO: );  
 Cys Cys Glu Cys Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO: );  
 15 Cys Cys Glu Gln Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO: );  
 Cys Cys Glu Glu Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO: );  
 Cys Cys Glu Gly Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO: );  
 Cys Cys Glu His Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO: );  
 Cys Cys Glu Ile Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO: );  
 20 Cys Cys Glu Lys Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO: );  
 Cys Cys Glu Met Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO: );  
 Cys Cys Glu Phe Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO: );  
 Cys Cys Glu Pro Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO: );  
 Cys Cys Glu Ser Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO: );  
 25 Cys Cys Glu Thr Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO: );  
 Cys Cys Glu Trp Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO: );  
 Cys Cys Glu Val Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO: );  
 Asn Ser Ser Asn Tyr Cys Cys Glu Leu Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr  
 (SEQ ID NO:--; MM-416776); and  
 30 Cys Cys Glu Leu Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO:--; MM416774).

25. A method for treating a gastrointestinal disorder in a patient comprising administering the peptide of claim 1.

26. A method for treating a gastrointestinal disorder in a patient comprising administering the peptide of claim 24.

27. The method of any of claims 20 – 26 wherein the gastrointestinal disorder is a gastrointestinal motility disorder.

28. The method of any of claims 20 – 26 wherein the gastrointestinal disorder is selected from the group consisting of a gastrointestinal motility disorder, irritable bowel syndrome, chronic constipation, a functional gastrointestinal disorder, gastroesophageal reflux disease, functional heartburn, dyspepsia, functional dyspepsia, nonulcer dyspepsia, gastroparesis, chronic intestinal pseudo-obstruction, colonic pseudo-obstruction, Crohn's disease, ulcerative colitis, and inflammatory bowel disease.

29. A method for treating obesity comprising administering the peptide of any of claims 1, 16-19, and 24.

30. A method for treating congestive heart failure comprising administering the peptide of any of claims 1, 16-19, and 24.

31. A method for treating benign prostatic hyperplasia comprising administering the peptide of any of claims 1, 16-19, and 24.

32. The purified peptide of any of claims 1, 16, 17, and 24 wherein the polypeptide comprises the amino acid sequence DF; QHNPR (SEQ ID NO: ); VQHNPR (SEQ ID NO: ); VRQHNPR (SEQ ID NO: ); VRGQHNPR (SEQ ID NO: ); VRGPQHNPR (SEQ ID NO: ); VRGPRQHNPR (SEQ ID NO: ); VRGPRRQHNPR (SEQ ID NO: ); or RQHNPR (SEQ ID NO: ) fused to its amino terminus or its carboxy terminus.

33. The purified peptide of any of claims 1, 16, 17, and 24 wherein the purified polypeptide comprises the amino acid sequence of an analgesic peptide selected from the group consisting of endomorphin-1, endomorphin-2, nocistatin, dalargin, lupron, and substance P fused to its amino terminus or its carboxy terminus.

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34. The purified peptide of any of claims 1, 16, 17, and 24 wherein the polypeptide includes no more than 10 additional amino acids at its amino terminus or carboxy terminus or both and wherein the polypeptide is a guanylate cyclase receptor agonist.

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35. The purified peptide of claim 1 wherein wherein: Xaa<sub>1</sub> Xaa<sub>2</sub> Xaa<sub>3</sub> Xaa<sub>4</sub> Xaa<sub>5</sub> is missing; Xaa<sub>8</sub> is Glu; Xaa<sub>9</sub> is Leu, Ile, Lys, Arg, Trp, Tyr or Phe; Xaa<sub>12</sub> is Asn; Xaa<sub>13</sub> is Pro; Xaa<sub>14</sub> is Ala; Xaa<sub>16</sub> is Thr, Ala, Lys, Arg, Trp; Xaa<sub>17</sub> is Gly; Xaa<sub>19</sub> is Tyr or Leu; and Xaa<sub>20</sub> Xaa<sub>21</sub> is AspPhe or is missing.

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36. A method for treating a patient suffering from constipation, the method comprising administering the polypeptide of any of claims 1, 16-23 and 28.

37. A method for increasing the activity of an intestinal guanylate cyclase (GC-C) receptor in a patient, the method comprising administering the polypeptide of any of claims 1, 16-19 and 24.

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38. A method for treating a gastrointestinal disorder in a patient comprising administering a GC-C receptor agonist.

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39. The method of claim 38 wherein the gastrointestinal disorder is a gastrointestinal motility disorder.

40. The method of claim 38 wherein the gastrointestinal disorder is selected from the group consisting of a gastrointestinal motility disorder, irritable bowel syndrome, chronic constipation, a functional gastrointestinal disorder, gastroesophageal reflux disease,

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functional heartburn, dyspepsia, functional dyspepsia, nonulcer dyspepsia, gastroparesis, chronic intestinal pseudo-obstruction, colonic pseudo-obstruction, Crohn's disease, ulcerative colitis, and inflammatory bowel disease.

5           41.     A method for treating obesity comprising administering a GC-C receptor agonist.

          42.     A method for treating congestive heart failure comprising administering a GC-C receptor agonist.

10           43.     A method for treating benign prostatic hyperplasia comprising administering a GC-C receptor agonist.

          44.     A method for treating visceral pain comprising administering a GC-C receptor agonist.

15           45.     A method for treating inflammation comprising administering a GC-C receptor agonist.

20           46.     A method for treating constipation comprising administering a GC-C receptor agonist.

          47.     A method for treating visceral pain comprising administering the polypeptide of any of claims 1, 16-19 and 24.

25           48.     A method for treating inflammation comprising administering the polypeptide of any of claims 1, 16-19 and 24.

          49.     A method for treating cystic fibrosis comprising administering the polypeptide of any of claims 1, 16-19 and 24.



50. A method for treating cystic fibrosis comprising administering a GC-C receptor agonist.

51. A pharmaceutical composition comprising the peptide of any of claims 1, 16-19 and 24 and a pharmaceutically acceptable carrier.

52. A pharmaceutical composition comprising the peptide of any of claims 1, 16-19 and 24 surrounded by an enteric coating.

53. A controlled release pharmaceutical composition comprising the peptide of any of claims 1, 16-19 and 24 and a biodegradable polymeric matrix.

54. A pharmaceutical composition comprising the peptide of any of claims 1, 16-19 and 24, an analgesic agent and a pharmaceutically acceptable carrier.

55. A pharmaceutical composition comprising the peptide of any of claims 1, 16-19 and 24, a phosphodiesterase inhibitor and a pharmaceutically acceptable carrier.

56. A method for treating cancer, a respiratory disorder, a neurological disorder, a disorder associated with fluid and sodium retention, a disorder associated with carbonate imbalance, erectile dysfunction, an insulin-related disorder, or an inner ear disorder, the method comprising administering the peptide of any of claims 1, 16-19 and 24.

57. A method for treating cancer, a respiratory disorder, a neurological disorder, a disorder associated with fluid and sodium retention, a disorder associated with carbonate imbalance, erectile dysfunction, an insulin-related disorder, or an inner ear disorder, the method comprising administering a GC-C receptor agonist.

58. A method of producing the peptide of any of claims 16-19 and 24, comprising providing a cell harboring a nucleic acid molecule encoding the polypeptide, culturing the cell under conditions in which the peptide is expressed, and isolating the expressed peptide.

59. A method of producing the peptide of any of claims 16-19 and 24, comprising chemically synthesizing the peptide and then purifying the synthesized peptide.

5 60. A pharmaceutical composition comprising the peptide of any of claims 1, 16-19 and 24 and a natriuretic peptide such as atrial natriuretic peptide, brain natriuretic peptide, a C-type natriuretic peptide, a diuretic, or an inhibitor of angiotensin converting enzyme.

10 61. A pharmaceutical composition comprising the peptide of any of claims 1, 16-19 and 24 and a 5-alpha reductase inhibitor or an alpha adrenergic inhibitor.

62. A pharmaceutical composition comprising the peptide of any of claims 1, 16-19 and 24 and gut hormone fragment peptide YY<sub>3-36</sub>, glp-1 (glucagon-like peptide-1), exendin-4 (an inhibitor of glp-1), sibutramine, phentermine, phendimetrazine, benzphetamine hydrochloride (Didrex), orlistat (Xenical), diethylpropion hydrochloride (Tenuate),  
15 fluoxetine (Prozac), bupropion, ephedra, chromium, garcinia cambogia, benzocaine, bladderwrack (focus vesiculosus), chitosan, nomame herba, galega (Goat's Rue, French Lilac), conjugated linoleic acid, L-carnitine, fiber (psyllium, plantago, guar fiber), caffeine, dehydroepiandrosterone, germander (teucrium chamaedrys), B-hydroxy-β-methylbutyrate, or  
20 pyruvate.

63. A pharmaceutical composition comprising a GC-C receptor agonist and a natriuretic peptide such as atrial natriuretic peptide, brain natriuretic peptide, a C-type natriuretic peptide, a diuretic, or an inhibitor of angiotensin converting enzyme.

25 64. A pharmaceutical composition comprising a GC-C receptor agonist and a 5-alpha reductase inhibitor or an alpha adrenergic inhibitor.

65. A pharmaceutical composition comprising a GC-C receptor agonist and gut  
30 hormone fragment peptide YY<sub>3-36</sub>, glp-1 (glucagon-like peptide-1), exendin-4 (an inhibitor of glp-1), sibutramine, phentermine, phendimetrazine, benzphetamine hydrochloride (Didrex),

orlistat (Xenical), diethylpropion hydrochloride (Tenuate), fluoxetine (Prozac), bupropion, ephedra, chromium, garcinia cambogia, benzocaine, bladderwrack (focus vesiculosus), chitosan, nomame herba, galega (Goat's Rue, French Lilac), conjugated linoleic acid, L-carnitine, fiber (psyllium, plantago, guar fiber), caffeine, dehydroepiandrosterone, germander (teucrium chamaedrys), B-hydroxy- $\beta$ -methylbutyrate, or pyruvate.

66. A method for treating congestive heart failure comprising administering the peptide of any of claims 1, 16-19 and 24 and a natriuretic peptide such as atrial natriuretic peptide, brain natriuretic peptide, a C-type natriuretic peptide, a diuretic, or an inhibitor of angiotensin converting enzyme.

67. A method for treating benign prostatic hyperplasia comprising administering the peptide of any of claims 1, 16-19 and 24 and a 5-alpha reductase inhibitor or an alpha adrenergic inhibitor.

68. A method for treating obesity comprising administering the peptide of any of claims 1, 16-19 and 24 and gut hormone fragment peptide YY<sub>3-36</sub>, glp-1 (glucagon-like peptide-1), exendin-4 (an inhibitor of glp-1), sibutramine, phentermine, phendimetrazine, benzphetamine hydrochloride (Didrex), orlistat (Xenical), diethylpropion hydrochloride (Tenuate), fluoxetine (Prozac), bupropion, ephedra, chromium, garcinia cambogia, benzocaine, bladderwrack (focus vesiculosus), chitosan, nomame herba, galega (Goat's Rue, French Lilac), conjugated linoleic acid, L-carnitine, fiber (psyllium, plantago, guar fiber), caffeine, dehydroepiandrosterone, germander (teucrium chamaedrys), B-hydroxy- $\beta$ -methylbutyrate, or pyruvate.

69. A method for treating congestive heart failure comprising administering a GC-C receptor agonist and a natriuretic peptide such as atrial natriuretic peptide, brain natriuretic peptide, a C-type natriuretic peptide, a diuretic, or an inhibitor of angiotensin converting enzyme.

70. A method for treating benign prostatic hyperplasia comprising a GC-C receptor agonist and a 5-alpha reductase inhibitor or an alpha adrenergic inhibitor.

71. A method for treating obesity comprising administering a GC-C receptor  
5 agonist and gut hormone fragment peptide YY<sub>3-36</sub>, glp-1 (glucagon-like peptide-1), exendin-  
4 (an inhibitor of glp-1), sibutramine, phentermine, phendimetrazine, benzphetamine  
hydrochloride (Didrex), orlistat (Xenical), diethylpropion hydrochloride (Tenuate),  
fluoxetine (Prozac), bupropion, ephedra, chromium, garcinia cambogia, benzocaine,  
10 bladderwrack (focus vesiculosus), chitosan, nomame herba, galega (Goat's Rue, French  
Lilac), conjugated linoleic acid, L-carnitine, fiber (psyllium, plantago, guar fiber), caffeine,  
dehydroepiandrosterone, germander (teucrium chamaedrys), B-hydroxy-β-methylbutyrate, or  
pyruvate.